

6/30/08-01895

**Francois, Aretha/VBO**

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**From:** Glennie, Steven/WDC  
**Sent:** Monday, June 30, 2008 2:58 PM  
**To:** Francois, Aretha/VBO  
**Subject:** FW: 5YR Response to EPA comments  
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For the ABL AR.

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**From:** Glennie, Steven/WDC  
**Sent:** Monday, June 30, 2008 2:58 PM  
**To:** 'John Aubert (E-mail)'; 'Josh Barber'; 'Lou Williams (E-mail)'; 'Michael Helbling (Michael.Helbling@Navy.mil)'; 'Sun Yi'; 'Tom Bass (tbass@wvdep.org)'  
**Cc:** Brown, Cassandra/WDC  
**Subject:** FW: 5YR Response to EPA comments

Attached are the response's to EPA's comments on the Draft ABL Five year Review Report. We are in the process of preparing the draft Final version of this report, which will be sent for your review by the end of next week.

Please let me know if you have any questions or comments.

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*Solutions Without Boundaries*

7/7/2008

## RESPONSE TO COMMENTS Draft Five-Year Review Report

### Allegany Ballistics Laboratory, Rocket Center, West Virginia

Comments on the *Draft Five-Year Review Report, Allegany Ballistics Laboratory (ABL), Rocket Center, West Virginia* (CH2M HILL, March 2008) were received from Ji-Sun Yi (United States Environmental Protection Agency Region 3) via email on May 23, 2008. Comments are presented as received, followed by response to comments.

### General Comments

1. While TCE is used as an indicator to assess the achievement of MCL cleanup levels in groundwater, all contaminants of concern (COCs) at Sites 1, 5 and 10 should be discussed in the five-year review. It is recommended that a performance-based remedy be considered for the sites that takes into consideration MCLs and the final residual risk levels for all COCs.

**Response:** During the June 2008 ABL Partnering meeting the Team discussed this comment with the USEPA Toxicologist and reviewed the Site 1 Groundwater ROD. The Team agreed the Draft Five-Year Review document appropriately addresses the protectiveness of the Site 1 remedial action. The Five-Year Review Report will not be modified.

2. For future consideration, it is recommended that a complete capture zone analysis for Sites 1 and 10 be performed in accordance with EPA 600/R-08/003 A Systematic Approach for Evaluation of Capture Zones at Pump and Treat Systems – Final Project Report, available at <http://www.epa.gov/ada/download/reports/600R08003/600R08003.pdf>

**Response:** The recommended analysis will be completed as part of the next Long Term Monitoring Report, scheduled for early 2009. The Five-Year Review Report will not be modified.

3. Repairs determined to be needed during the site inspections (i.e., well pads, rubber sealing of extraction well vault lids) should be included in the Recommendations and Follow-up Actions section of the report, including a milestone date.

**Response:** Comment noted. Repairs needed and milestone dates will be included in the Recommendations and Follow-up Actions section.

### Specific Comments

1. Figures 2-8 through 2-11. These figures depict TCE concentrations beginning in June 1998 (baseline sampling event) and for several years through April/May 2007. The concentrations included in the figures compare well to those presented in summary charts and discussion included elsewhere in Section 2. However, the

isoconcentration contours used on the cited figures vary from year to year. For example, Figure 2-10A (2007) uses a maximum TCE concentration contour of 100 ug/L while Figure 2-11A (2005) includes a 1,000 ug/L contour. Based on the data presented in Chart 2-1A, TCE concentrations at well 1GW34 ranged from 8,500 ug/L in 2005 to 4,100 ug/L in 2007. Although the presentation in Figure 2-10A is accurate, the lack of presentation of actual contaminant concentrations and the use of different contours may lead reviewers to conclude that TCE concentrations of 1,000 ug/L or more were not present in 2007. It is recommended that these figures be revised to utilize identical isoconcentration contours. Such a revision would reduce potential misinterpretation of the information presented in the figures which, given the summary nature of the report, become the focal point of the groundwater evaluation.

**Response:** The figures will be revised such that the isoconcentration contour lines for each site are consistently used throughout each figure.

2. Page 2-14, Section 2.5.4.3. This section, along with Section 2.6.3 and Tables 2-2, 2-3 and 2-4 defer actions to the results of continued long-term monitoring prior to and after completion of the floodplain soil remedy at Site 1. The recommended actions fail to point out that the existing long-term monitoring approach is insufficient to document effects or accurately identify their cause. At a minimum, the report should indicate changes to the 2006 long-term monitoring protocol will be necessary to address the ecological risk assessment findings.

**Response:** Additional surface water, sediment, and biota sampling locations at Site 1 will be added as part of the LTM plan. The addendum to the 2006 LTM Plan is scheduled for submission by July 2008. This information will be added to the Five-Year Review report.

3. Page 2-15, Section 2.5.4.5. Since the background data from the human health risk assessment of fish ingestion (Final Long-Term Monitoring Report for Sites 1, 5 and 10) are used as justification for no further action, it is recommended that further discussion of the background assessment be included to ascertain that it is still consistent with the current background guidance.

**Response:** The requested information will be included.

4. Page 2-16, Section 2.5.4.6. The last paragraph on page 2-16 indicates that an increase in TCE concentrations was noted in well 1GW05. However, it is unclear why such an increase was noted. Although it is recognized that fluctuations in concentrations will occur and that monitoring will continue, it is recommended that a brief discussion of factors potentially contributing to this increasing trend be added to this section.

**Response:** Comment noted. A discussion on potentially contributing factors to the increasing trend of TCE concentrations in well 1GW05 will be added.

5. Table 3-2. Please indicate what criteria will be used to assess risk from inorganics in stormwater for future monitoring.

**Response:** WVDEP will be consulted in order to determine if an alternate criteria can be used. The results of that consultation will be added to the Final Five-Year Review report.

6. Figure 3-2. This figure depicts groundwater flow in the alluvial aquifer for Site 5 in 2005. However, the figure identifies well 5GW21 in two separate locations. Based on a comparison to other Site 5 figures, it appears that the westernmost location should likely be labeled as well 5GW20. Please revise this and other figures accordingly.

**Response:** The figure will be revised to show the correct well IDs.

7. Pages 3-7 and 3-8, Section 3.3.5. This section discusses the costs associated with activities conducted at Site 5 from 1997 to 2007. The discussion references an initial projected annual cost of \$24,000 for operation and maintenance (O&M) and long-term monitoring (LTM), and provides a description of unanticipated costs that have resulted in significant exceedances of projected costs. Although the rationale provided for the exceedance of projected O&M/LTM cost appears justified, a revised annual cost projection has not been provided. It is recommended that this section be revised to include an updated annual cost projection based on the expansion of the LTM program and other variables that have changed since the original cost estimate was generated. This modification would aid in the assessment of remedy efficiency during the next five-year evaluation.

**Response:** The annual estimated costs for Site 5 O&M and LTM will be reevaluated and included in this section.

8. Figure 3-3. This figure depicts groundwater flow in the alluvial aquifer for Site 5 in 2006. However, the figure identifies wells 5GW19 through 5GW23 sediment/surface water monitoring locations. Based on a comparison to other Site 5 figures, it appears that these locations should be labeled as existing alluvial monitoring wells. Please revise this and other figures accordingly.

**Response:** The symbols in the figure will be corrected.

9. Figure 3-4. This figure depicts TCE concentrations from August 2000 through April 2007. However, the TCE contours presented in the April 2007 portion of the figure do not appear to coincide with the TCE concentrations presented below the associated monitoring well label. For example, monitoring well 5GW23, located to the east of the 5 ug/L TCE contour, is presented with a TCE concentration of 32 ug/L. Similarly, monitoring well 5GW13 is presented with a TCE concentration of 15 ug/L yet is located on the 5 ug/L contour. In contrast, monitoring well 5GW09 is listed as "ND" yet is located within the 5 ug/L contour. In addition, the 32 ug/L TCE concentration presented for monitoring well 5GW23 in April 2007 is an order of magnitude greater than all of the historical concentrations for this well included on the figure. However, this increase does not appear to have been discussed in the text.

Please revise the report to address the TCE concentration contour inconsistencies identified above and any others that may be present. Also, it is recommended that Section 3 be revised to account for changes in TCE distribution resulting from the revision of associated figures. It is further recommended that Section 3 be revised, as

necessary, to include a discussion related to the apparent increase in TCE concentrations noted at monitoring well 5GW23 in April 2007.

**Response:** The TCE contour lines for April 2007 will be corrected. The distribution of TCE and concentrations in well 5GW23 during the April 2007 event will be discussed in Section 3.

10. Page 4-14, Section 4.6.1.3. It is recommended that well 2GW03 remain in the long-term monitoring program for Site 10, since TCE has been detected above the MCL during both sampling events. Additional monitoring of this well would provide more information in determining whether or not to keep this well in the long-term monitoring program.

**Response:** Comment noted. Well 2GW03 will remain in the Site 10 LTM program.

11. Figure 4-2B. The depiction of TCE concentrations in bedrock groundwater for April (and presumably May) 2007 presented in Figure 4-2B do not appear to coincide with those presented in Chart 4-1B, TCE Concentrations in Bedrock Groundwater at Site 10. For example, the chart presents a TCE concentration of 10 ug/L for monitoring well 10GW06. However, this well is depicted outside of the 10 ug/L TCE contour to the north. Similar observations were noted for monitoring wells 10GW16 and 10GW29.

In addition, the chart appears to present a TCE concentration of 10 ug/L for monitoring well 10GW26. However, several symbols representing different wells appear to overlap and it is unclear whether this concentration is correct. In addition, this well is not presented on Figure 4-2B since it is located approximately 500 feet north of monitoring well 10GW19, situated along the northern boundary of the plume as depicted in the figure (refer to Figure 4-1 for the location of this well). As discussed in Section 4.5.4.2, second paragraph, page 4-12, this well (along with wells 10GW06 and 10GW29) is reportedly located outside of the plume and has exhibited TCE concentrations below 5 ug/L since 1999. Further, an August 2006 TCE concentration of 10 ug/L appears to be presented for monitoring well 10GW06. This concentration is inconsistent with the above-referenced discussion on page 4-12. Please review the chart, figure and text of Section 4 and revise, as necessary, to correct these and any other discrepancies.

**Response:** The TCE contour lines on Site 10 figures and corresponding charts and text will be reviewed for accuracy and consistency and revised accordingly.

## Editorial Comments

1. Page xvii, 2C. Should read: Protectiveness Statement: The landfill cap remedy....

**Response:** "Protectiveness Statement:" will be added to the beginning of this sentence.

2. Page 2-10, Section 2.5.1. Please correct: ...EPA Region III (Mr. Joshua Barber and Ms. Ji-Sun Yi),....This comment also applies to Sections 3.5.1 and 4.5.1.

**Response:** Comment noted. These sections will be revised.

3. Page 2-14, Section 2.5.4.1. The last sentence of first paragraph should read: This condition was not observed during the current five-year review period.

**Response:** Comment noted. A dash will be placed between the words five and year.

4. Page 3-3, Section 3.2.5. The second sentence of the last paragraph in this section should read: No potentially unacceptable human health or ecological risks were identified....

**Response:** This is currently how the sentence reads. No change will be made.

5. Page 3-3, Section 3.3.1. The first sentence of this section should read: The remedy selection...ROD documents: OU-1 (Landfill Contents and Surface Soil);....

**Response:** Comment noted. A parenthesis will be added after the word soil.

6. Page 3-6, Section 3.3.3. Please correct the references cited in the last sentence of this section (i.e., Sections 2.3.3.1 and 2.3.3.2).

**Response:** References will be changed to Sections 3.3.3.1 and 3.3.3.2

7. Page 4-10, Section 4.5.4.2. Please correct the references to figures cited in the last 2 sentences in the first paragraph of this section (i.e., Figure 4-1).

**Response:** Comment noted. The figure references will be revised.